

STATE OF MISSOURI Bob Holden, Governor • Stephen M. Mahfood, Director
DEPARTMENT OF NATURAL RESOURCES

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September 5, 2002

Mr. Tony Petruska
U.S. Environmental Protection Agency
Region VII
901 North 5th Street
Kansas City, KS 66101



Dear Mr. Petruska:

The Missouri Department of Natural Resources, Missouri Department of Conservation, and U.S. Fish & Wildlife Service have reviewed the "Ecological Risk Assessment Plan, Slag Investigation, The Doe Run Company Lead Smelter, Herculaneum, Missouri." The Trustee representatives within the State of Missouri offer the following comments on this document.

General Comments

The focus of the ecological risk assessment (ERA) is too narrow. The statement of work references the slag pile, but the definition of the site contained in the Administrative Order on Consent (AOC) is much broader. The AOC also indicates that since the investigation is ongoing, the boundaries of the site are subject to change and should include all areas where contamination is located. Additional items to be considered in the ERA should include, but are not limited to, air deposition, spills, old slag deposits located near the facility, and flood events. These changes should be reflected throughout the ERA, and the ERA should be redrafted for an additional review.

The ERA dismisses most historical data. Data is dismissed because applicable data quality objectives cannot be evaluated. However, the authors referenced data in summary or overview documents, and there was no attempt to determine if the original data meets the data quality objectives. Therefore, before any data is dismissed, efforts should be made to contact the originators of the data to determine if appropriate data quality objectives can be met. There is a reference listing in each of these summary documents that provides the source of the information.

Specific Comments

Section 2.1.4 Data are Representative of Current Conditions (page 2-3) – It is stated that "These pre-flood samples are not likely to be representative of current conditions, and are not suitable

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for use in this ecological risk assessment.” The Trustee representatives do not agree with this statement. Flood events represent the worse case scenario, and there are seasonal flood events that occur. Until such time that a final decision is made regarding the placement of a berm around the slag pile, the results of the pre-flood samples should be considered in this ERA.

Section 2.5.1 Frequency of Detection (FOD) (page 2-5) – The ERA states that constituents detected in less than five percent of the samples will be eliminated from further consideration as a chemical of potential concern (COPC). The final decision to eliminate a constituent as a COPC will be made by the Trustees and remedial representatives, and a statement reflecting this position should be added to the text.

Section 2.5.5 Comparison with Applicable or Relevant and Appropriate Requirements (ARARs) (page 2-6, third bullet) – The 1993 EPA sediment references are not the appropriate documents to reference, particularly since they are not criteria for metals. The consensus-based sediment quality guidelines for freshwater ecosystems should be used and can be found in the document entitled “Development and Evaluation of Consensus-Based Sediment Quality Guidelines for Freshwater Ecosystems” by McDonald et. al. (2000, Arch Environ. Contam. Toxicol., 39, 20-31)

Additionally, the Missouri State water quality standards are undergoing revision (with most metal standards proposed to be lower and more similar to the Federal water quality criteria). It is expected that the new standards will be issued prior to a final action. To avoid making future changes in the ERA, the Federal water quality guidelines should also be used as an ARAR.

Section 2.6 Conceptual Site Model (CSM) (page 2-7) – The CSM represents the slag pile only. The CSM should be modified to reflect the entire site.

Section 2.6.2.2 Physical Transport Pathways (page 2-8) – There should be a pathway, which includes direct exposure. For example, birds either dusting or ingesting as grit, slag pile material.

Section 2.6.2.3 General Environmental Transport and Fate of the COPCs (page 2-8) – While evaluating metal speciation is an important part of determining direct uptake of metals from the water, it does not adequately represent a complete exposure scenario. Benthic invertebrates, for example, will be exposed both through the water column and through ingestion of particulates, which have adsorbed metals. Estimates of exposure must include all pathways and exposure scenarios and should be reflected in this section.

Section 2.6.3 Potential Exposure Pathways (page 2-9) – It is stated that potential pathways will be eliminated if “considered to contribute insignificantly to overall chemical exposures . . .” The reason the contribution would be considered insignificant needs to be clearly expressed and agreed to by the Trustees and remedial representatives.

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Section 3.1.2 Ecological Setting (page 3-5) – The initial (Phase I) investigations of the Joachim Creek watershed should be expanded to include the entire flood plain as opposed to only the slag storage area.

Section 3.9.1 Baseline Effects Characterization (page 3-16, #2 and #3) – These decisions will be made in conjunction with the Trustees and remedial representatives.

Section 3.9.2 Uncertainty Analysis (page 3-17) – It is stated that “To eliminate uncertainty associated with the historic data (Section 3.1.), only data from the SI will be used in the BRA.” The Trustees representatives do not agree that the historic data should be discarded.

Appendix A – The ecological benchmarks listed in the summary do not include sufficient benchmarks for plants.

We appreciate the opportunity to comment on this document, and we would appreciate a copy of any official response you receive to these comments. If you have any questions or need additional information, please contact Mr. Jim Dwyer at (573) 876-1911 ext. 108; Ms. Karen Bataille at (573) 882-9880 ext. 3215; or me at (573) 522-1347 or P.O. Box 176, Jefferson City, MO 65109.

Sincerely,

HAZARDOUS WASTE PROGRAM



Frances Klahr
NRDAR Coordinator

FK:pi

c: Ms. Karen Bataille, Department of Conservation
Mr. Mike Coffey/Kevin de la Bruere, U.S. Fish & Wildlife Service
Mr. Jim Dwyer, U.S. Fish & Wildlife Service
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